1. Introduction

1.1 Identification

This Release B SDPS Data Processing Subsystem Design Specification for the ECS Project, Contract Data Requirement List (CDRL) Item 046, with requirements specified in Data Item Description (DID) 305/DV2, is a required deliverable under the Earth Observing System Data and Information System (EOSDIS) Core System (ECS), Contract NAS5-60000. This publication is part of a series of documents comprising the Science and Communications Development Office design specification for the Communications and System Management Segment (CSMS) and the Science Data Processing Segment (SDPS) for Release B.

1.2 Purpose and Scope

The Release B SDPS Data Processing Subsystem Design Specification defines the progress of the design. It defines the Data Processing Subsystem computer software and hardware architectural design, as well as subsystem design based on Level 4 requirements.

This document reflects the February 14, 1996 Technical Baseline, maintained by the ECS Configuration Control Board in accordance with ECS Technical Direction No. 11 dated December 6, 1994.

1.3 Status and Schedule

This submittal of DID 305/DV2 meets the milestone specified in the Contract Data Requirements List (CDRL) of NASA Contract NAS5-60000. The present version of this document will be reviewed during the CSMS Critical Design Review (CDR).

1.4 Organization

The document is organized to describe the Release B SDPS Data Processing subsystem design as follows:

Section 1 provides information regarding the identification, scope, status, and organization of this document.

Section 2 provides a listing of the related documents, which were used as source information for this document.

Section 3 provides an overview of the subsystem, focusing on the high-level design concept. This provides general background information to put the Data Processing subsystem into context.

Section 4 contains the design and structure of the Processing (PRONG) computer software configuration item (CSCI). One of the CSCIs comprising the Data Processing subsystem.

Section 5 contains the structure of the Science Data Processing Toolkit (SDPTK) computer software configuration item (CSCI). This section contains references to other design documents where the SDP Toolkit design has been represented in more detail. One of the CSCIs comprising the Data Processing subsystem.

Sections 6 contains the structure of the Algorithm Integration & Test (AITTL) computer software configuration item (CSCI). One of the CSCIs which comprise the Data Processing subsystem.

Section 7 contains the structure of the Science Processing (SPRHW) hardware configuration item (HWCI). One of the HWCIs of the Data Processing subsystem.

Section 8 contains the structure of the Algorithm Quality Assurance (AQAHW) hardware configuration item (HWCI). One of the HWCIs of the Data Processing subsystem.

Section 9 contains the structure of the Algorithm Integration and Test (AITHW) hardware configuration item (HWCI). One of the HWCIs of the Data Processing subsystem.

Appendix A contains a table mapping each Level 4 Requirement to the design components which will implement that requirements' functionality.

The section Abbreviations and Acronyms contains an alphabetized list of the definitions for abbreviations and acronyms used in this document.